W claim:

1. A method for increasing the brightness of a semiconductor laser diode array, the method comprising the steps of:

(a) providing a fiber coupled diode array having a plurality of optical fibers;

(b) providing a dual clad fiber formed with a core, an inner cladding and an outer cladding;

(c) providing a Stokes seed source;

(d) coupling said plurality of optical fibers to said inner cladding; and

(e) coupling said Stokes seed source to said core.

2. The method as recited in claim 1, wherein step (b) comprises providing a dual clad fiber formed from a glass material.

3. The method as recited in claim 2, wherein step (b) comprises providing a dual clad fiber formed from fused silica.

4. The method as recited in claim 2, wherein step (b) comprises providing a dual clad fiber formed from tellurite.

5. The method as recited in claim 1, where step (b) comprises providing a dual clad fiber formed with a core, an inner cladding and an outer cladding wherein the index of refraction of the inner cladding is less than the index of refraction of the core.

6. The method as recited in claim 1, wherein step (b) comprises providing a dual clad fiber formed with a core, an inner cladding and an outer cladding wherein the inner cladding has a noncircular shape.

7. The method as recited in claim 6, wherein step (b) comprises providing a dual clad fiber with a core, an inner cladding and an outer cladding wherein said inner cladding has a hexagonal cross section.

8. The method as recited in claim 6, wherein step (b) comprises providing a dual clad fiber with a core, an inner cladding and an outer cladding wherein said inner cladding has a rectangular cross section.

9. The method as recited in claim 5, wherein step (b) comprises providing a dual clad fiber formed with a core, an inner cladding and an outer cladding, wherein the index of refraction of the outer cladding is less than the index of refraction of the inner cladding.